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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,201	06/29/2005	Joseph Colineau	62781 (4590-341)	6408

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EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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02/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/510,201	COLINEAU ET AL.	
	Examiner	Art Unit	
	P. Agustin	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-37 is/are pending in the application.
- 4a) Of the above claim(s) 28-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21, 22 and 26 is/are rejected.
- 7) ☒ Claim(s) 23-25 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08). | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This application is a 371 of PCT/FR03/00942, filed March 25, 2003.
2. Claims 21-37 are currently pending.

Election/Restrictions

3. Applicant's election of Group I, claims 21-27, in the reply filed on January 7, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

4. Claims 28-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on January 7, 2008.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

6. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

7. Claims 21, 23, 24, 26 & 27 are objected to because of the following informalities:
Claim 21, line 4: "the said" should be --said--.

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Claim 21, line 5: "the method" should be --the method comprising--.

Claim 21, line 10: "the said" should be --said--.

Claim 21, line 14: "phase-compares" should be --phase-comparing--.

Claim 21, last line: "proportional of" should be --proportional to--.

Claim 23, line 2: "the said" should be --said--.

Claim 23, line 2: "performes" should be --performs--.

Claim 24, line 2: "the modulation depth" should be --a modulation depth--.

Claim 26, line 1: "comprises" should be --comprising--.

Claim 26, line 2: "adjustes" should be --adjusts--.

Claim 26, lines 2-3: "the channels" should be --channels--.

Claim 27, line 3: "signal;" should be --signal; and--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 21 & 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Nomoto (US 6,657,930).

In regard to claim 21, Nomoto discloses a radial slaving method (title: "tracking control") for a device (Figure 1) for reproducing information from an optical disc (DVD-RW), in which

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the information stored on the disc in the form of alterations (inherent “pits” or “marks” recorded on the disc) arranged along predetermined tracks (see Figure 4) of the disc is explored by a laser beam (Figure 1, element 110), which converges at a spot on the optical disc and results in a beam emerging from the said disc by reflection or transmission (light beam received by element 101), the device being equipped with a multi-photodiode far-field detection system (101; see elements A-D in Figure 2) for detecting the emergent light beam, the method comprising: combining read signals (see Figure 2) of the photodiodes (A-D) of the detection system (101) so as to form four read subsystems (A, B, C & D) having two pairs of subsystems (one pair being subsystems A & C and the other pair being subsystems B & D), the subsystems of each pair being arranged on either side of a first axis (subsystems A & C, as well as subsystems B & D, are arranged on an upper and lower side of an imaginary axis, i.e., the claimed “first axis”, parallel to the tangential direction and dividing the detector 101 into upper and lower halves) parallel to the image of the axis (tangential direction) of the track being explored, and the pairs being arranged on either side of a second axis (subsystems A & C, as well as subsystems B & D, are arranged on a left and right side of an imaginary axis, i.e., the claimed “second axis”, parallel to the radial direction and dividing the detector 101 into left and right halves) perpendicular to the first axis, the first and second axes being axes of symmetry for the detection system (as indicated, the first axis divides the detector 101 into upper and lower halves and the second axis divides the detector 101 into left and right halves), wherein combining the read signals of the said photodiodes takes the difference (SD1, which is a difference between S_A & S_C ; and SD2, which is a difference between S_B & S_D) between the read signals of two subsystems belonging to different pairs (pair A & C and pair B & D) in order to form a read signal (SD1) along a first diagonal (11) of the detection

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system and a read signal (SD2) along a second diagonal (12) of the detection system; and phase-compares (note phase comparison circuit 204) the signals (SD1 & SD2) obtained by each of the two subsystems in order to obtain a radial error signal (TE signal) substantially proportional to the radial tracking (title: "tracking control").

In regard to claim 22, Nomoto discloses that the subsystems (A-D) have photodiodes of a four-quadrant detector (as shown in Figure 2).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nomoto in view of Fukushima et al. (JP 10-21559) (please refer to the machine translation).

For a description of Nomoto, see the rejection above. However, Nomoto does not disclose: in regard to claim 26, a rapid pre-correction step, which dynamically adjusts the delays of the read signals along the first and second diagonals, in the channels for constructing the readout signal, as a function of the radial error signal.

Fukushima et al. disclose: in regard to claim 26, a rapid pre-correction step, which dynamically adjusts the delays (Drawing 1, element 3 is a "variable delay means") of read signals along the first and second diagonals (output of each adder in signal adding means 4), in channels (e.g., the first channel corresponds to the path including the upper adder in signal adding means 4, and a second channel corresponds to the path including the lower adder in

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signal adding means 4) for constructing the readout signal, as a function of a radial error signal (output of tracking error signal detecting means 11; note the feedback loop including elements 12, 7 & 3).

It would have been obvious to one of ordinary skill in the art at the time of invention to have applied the teachings of Fukushima et al. to the method of Nomoto, the motivation being to reduce an offset superposed upon the tracking error signal (see abstract), thereby maintaining accurate reproduction of data.

Allowable Subject Matter

12. Claims 23-25 & 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record alone or in combination fails to teach or suggest:

in claim 23, wherein said step of phase-comparing the read signals along the said first and second diagonals performs a cross-correlation between each read signal of one diagonal and the signal of the other diagonal, to which a predetermined delay is assigned; and

in claim 27, wherein said rapid pre-correction step: filters the radial error signal in order to keep only the high-frequency components of the signal; and determines an inverse variation of the delays as a function of the high-frequency component values, in order to minimize the phase-shift effects of the readout signal.

Claims 24 & 25 are dependent upon claim 23.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Coombs (US 6,256,285), Kamiyama (JP 10-269588), Takahashi et al. (US 7,120,107) & Musha et al. (US 4,544,838) are all pertinent to applicant's disclosure of generating a radial error signal based on output signals of a four-quadrant photodetector.

Kato et al. (US 6,058,093) disclose detection of prebits using a difference between diagonal signals from a four-quadrant photodetector.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Thursday 8:30-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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Peter Vincent Agustin
Patent Examiner
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